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EXAMINER FISHER, ABIGAIL L				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

09/880,322

**Applicant(s)**

RUNKIS, WALTER H.

**Examiner**

ABIGAIL FISHER

**Art Unit**

1616

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 80, 81, 86, 87, 89-91, 94-96 and 98-103 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 80-81, 86-87, 89-91, 94-96 and 98-103 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Receipt of Amendments/Remarks and Declaration under 37 CFR 1.132 filed on August 17 2009 is acknowledged. Claims 1-79, 82-85, 88, 92-93 and 97 were/stand cancelled. Claims 80-81, 86-87, 89 and 98 were amended. Claims 99-103 were added. Claims 80-81, 86-87, 89-91, 94-96 and 98-103 are pending.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

#### ***Claim Objections***

The objection of claim 81 because of informalities is **withdrawn** in light of Applicant's amendments filed on August 17 2009.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The rejection of claims 80-83, 86-87, 89-91, 93-96 and 98 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is **withdrawn** in light of Applicant's amendments filed on August 17 2009.

The rejection of claims 80-81 and 83 under 35 U.S.C. 112, first paragraph, as

failing to comply with the written description requirement is **withdrawn** in light of Applicant's amendments filed on August 17 2009.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The rejection of claims 80-83, 86-91, 93-96 and 98 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is **withdrawn** in light of Applicant's amendments filed on August 17 2009.

#### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue, and resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The rejection of claims 80-82, 86-90, 93 and 98 under 35 U.S.C. 103(a) as being unpatentable over von Locquenghien et al. (EP 1033365A1) is **withdrawn** in light of Applicant's amendments filed on August 17 2009.

The rejection of claims 91 and 96 under 35 U.S.C. 103(a) as being unpatentable over Von Locquenghien et al. in view of Rodder is **withdrawn** in light of Applicant's amendments filed on August 17 2009.

The rejection of claims 94 and 95 under 35 U.S.C. 103(a) as being unpatentable over Von Locquenghien et al. in view of Oeriu et al. is **withdrawn** in light of Applicant's amendments filed on August 17 2009.

**Modified Rejection Based on amendments in the reply filed on August 17 2009**

**Claims 80-81, 86-87, 89-90 and 98-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodhouse (US Patent No. 2237826, cited in the Office action mailed on 6/25/03) in view of Kirk-Othmer (Encyclopedia of Chemical Technology, 1997, cited in the Office action mailed on 2/2/05).**

**Applicant Claims**

The instant application claims an acidic composition comprising one or more bivalent metallic sulfamate reaction products of sulfamic acid compounds and one or more water-insoluble macronutrient and/or micronutrient compounds, which reaction product is water-solution stable and an amount of phosphate and/or nitrate salt or both or phosphoric acid and/or nitric acid or both.

Specific claimed micronutrient compounds is iron carbonate.

**Determination of the Scope and Content of the Prior Art  
(MPEP §2141.01)**

Woodhouse is directed to fertilizer compositions. It is taught that phosphate rock may be decomposed by various mineral acids to give valuable fertilizer materials generally referred to as superphosphates. It is taught that it is known in the art to add various nitrogen-containing materials to such superphosphates in processes of preparing complete or finished fertilizers (column 1, lines 4-10). It is taught that highly desirable nitrifying solutions may be prepared by the use of sulfamic acid or salts of sulfamic acids as one component. Salts of sulfamic acid include ammonium, sodium, calcium, magnesium, potassium or the like salts or mixtures thereof (column 2, lines 10-21). Sulfamic acid is taught as a good source of nitrogen for plant growth and miscible with water (column 2, lines 22-29). It is taught that the invention may be practiced by addition of sulfamic acid or its salts to the usual fertilizer materials such as superphosphate ( $P_2O_5$  aka phosphoric acid), double and triple phosphate, potash salts, organic materials, etc. (column 2, lines 35-40). Potash salts include potassium sulfate, chloride and nitrate; ammonium salts such as ammonium chloride, nitrate, sulfate carbamate, etc. (column 3, lines 1-7). It is taught that sulfamic acid may be advantageously incorporated into nitrogen containing or ammoniating liquids generally. For example, sulfamic acid may be in ammoniating solutions or nitrogen-containing solutions which have incorporated therein a wide variety of nitrogenous compounds including nitrates, ammonium salts and organic nitrogenous materials (column 3, lines 45-59). Example 1 utilizes superphosphate (aka phosphoric acid) and ammonium sulfamate. As claimed the fertilizer comprises sulfamic acid and salts of sulfamic acid

and a water soluble nitrogen salt having fertilizing value selected from the group consisting of alkali metal, alkaline earth metal and ammonium salts (claim 2). This fertilizer also contains water (claim 3). The water soluble salt having fertilizing value is taught as salts such as ammonium nitrate, sodium nitrate, calcium nitrate, potassium nitrate, potassium chloride or the like (column 4, lines 43-48). The method of producing the fertilizer as claimed comprises adding to acidic fertilizer materials a liquid containing a material selected from the group consisting of sulfamic acid and salts of sulfamic acid (claim 5) or a liquid containing a water soluble salt having fertilizing value and a material selected from the group consisting of sulfamic acid and salts of sulfamic acid (claim 8). It is taught that although the examples are restricted to the use of ammonium sulfamate, the use of this salt is only illustrative as indicated elsewhere sulfamic acid or other salts of sulfamic acid may be substituted for and utilized equally as well as the ammonium sulfamate of the examples (column 5, lines 21-29). The amount of water that can be utilized to form the fertilizing solution is at least 5 parts of water.

**Ascertainment of the Difference Between Scope of the Prior Art and the Claims  
(MPEP §2141.012)**

While Woodhouse teach the formation of sulfamic acids salts such as ammonium, sodium, calcium, and magnesium, Woodhouse does not teach iron salts of sulfamic acids formed by the reaction of sulfamic acid with iron carbonate. However, this deficiency is cured by Kirk-Othmer.

Kirk-Othmer is directed to sulfamic acids and sulfamates. It is taught that sulfamic acid readily forms various metal sulfamates by reaction with the metal or the

respective carbonates, oxides or hydroxides. Examples of metal salts include zinc, calcium, iron, nickel and ammonium salts (page 122).

***Finding of Prima Facie Obviousness Rationale and Motivation***  
***(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize a sulfamic acid salt in combination with a superphosphate (aka phosphoric acid) and nitrate containing compounds such as calcium nitrate or ammonium nitrate. One of ordinary skill in the art would have been motivated to utilize these compounds as Woodhouse teach that sulfamic acid salts may be combined with other materials in preparing a fertilizer. These other ingredients include nitrogen containing liquors such as nitrates and superphosphates. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06**.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize various different sulfamic acid salts including iron sulfates. One of ordinary skill in the art would have been motivated to utilize various different sulfamic acid salts as Woodhouse teach that salts of sulfamic acid can be utilized and indicate such bivalent salts such as calcium and magnesium can be utilized. One of ordinary skill in the art would have been motivated to replace the taught ammonium or calcium salts with iron as all are taught by Kirk-Othmer as functional equivalents. It



would have been obvious to one of ordinary skill in the art to utilize carbonates, oxides or hydroxides of the various metals to form the salts as Kirk-Othmer teach that this how the formation of salts of sulfamic acid are typically formed.

Regarding claim 81, specific nitrates taught as being inclusive of the fertilizer compositions include calcium nitrate. This particular species with both a nitrate (which is also a  $\text{N}^{-3}$  moieties) and a calcium moiety.

Regarding the claimed acidity, as claimed by Woodhouse, the salt of the sulfamic as well as the water soluble salts having fertilizing value are added to an acidic base. Since the sulfamic acid salt would be expected to be acidic and the nitrates would be expected to at least be neutral (see the submitted MSDS sheets for ammonium sulfamate and sodium nitrate) the overall pH of the composition would be expected to be acidic.

Regarding claims 102-103, Woodhouse teach the formation of fertilizing solutions and the solvent utilized is water. The amount of a specific ingredient in a composition is clearly a result effective parameter that a person of ordinary skill in the art would routinely optimize. Optimization of parameters is a routine practice that would be obvious for a person of ordinary skill in the art to employ and reasonably would expect success. It would have been customary for an artisan of ordinary skill to determine the optimal amount of each ingredient to add in order to best achieve the desired results. Since Woodhouse teaches utilizing at least 5 part water, it would have been obvious to one of ordinary skill in the art to manipulate the amount of water depending on the desiring viscosity and concentration of the final composition. It would have been

obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable ranges that produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

**Claims 91 and 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodhouse in view of Kirk-Othmer and in further view of Rodder (US Patent No. 5981441).**

#### **Applicant Claims**

The instant application claims the solvent comprises an organic solvent. A specific organic solvent claimed is methanol.

#### **Determination of the Scope and Content of the Prior Art (MPEP §2141.01)**

The teachings of Woodhouse and Kirk-Othmer are set forth above. Woodhouse teach fertilizer composition comprising salts of sulfamic acid. Kirk-Othmer teach method of making salts of sulfamic acid.

#### **Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)**

Woodhouse does not specify the incorporation of methanol. However, this deficiency is cured by Rodder.

Rodder is directed to the use of methanol for improving plant growth. It is taught that addition of aqueous solutions containing methanol with a nitrogen fertilizer improves the growth characteristics of plants (abstract and example).

***Finding of Prima Facie Obviousness Rationale and Motivation  
(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Woodhouse, Kirk-Othmer and Rodder and utilize methanol in combination with the nitrogen fertilizer of Woodhouse. One of ordinary skill in the art would have been motivated to utilize methanol in combination with the aqueous nitrogen fertilizer of Woodhouse as Rodder teach that this combination improves the growth characteristics of plants. Therefore, one of ordinary skill in the art would have been motivated to add methanol in order to improve the growth characteristics as taught by Rodder.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

**Claims 94-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodhouse in view of Kirk-Othmer and in further view of Oeriu et al. (US Patent no. 3537838).**

#### **Applicant Claims**

The instant application claims the composition further comprises one or more amino acids. The instant application claims that the one or more amino acids are sulfur-containing amino acids.

#### **Determination of the Scope and Content of the Prior Art (MPEP §2141.01)**

The teachings of Woodhouse and Kirk-Othmer are set forth above. Woodhouse teach fertilizer composition comprising salts of sulfamic acid. Kirk-Othmer teach method of making salts of sulfamic acid.

#### **Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)**

Woodhouse does not specify that amino acids or sulfur containing amino acids can be added. However, this deficiency is cured by Oeriu et al.

Oeriu et al. is directed to method for stimulating plant growth. It is taught that the free thiol (SH-group) set free in the plant organism causes proportionate growth and development of the plants and brings about richer harvests (abstract). Specific thiol containing compounds taught include cysteine and homocysteine (column 2, lines 14-17).

#### **Finding of Prima Facie Obviousness Rationale and Motivation (MPEP §2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Woodhouse, Kirk-Othmer and Oeriu et al. and utilize cysteine or homocysteine in the fertilizer composition of Woodhouse. One of ordinary skill in the art would have been motivated to add cysteine or homocysteine as Woodhouse teach that usual fertilizer compositions can be utilized with the salts of sulfamic acids and Oeriu et al. teach that cysteine or homocysteine can be utilized for stimulating plant growth. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06**.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

#### ***Response to Arguments/Declaration under Rule 132***

Applicant argues that (1) Woodhouse describes the use of sulfamic acid or salts thereof only to increase ammonium nitrogen availability. Metallic sulfamates with or without sulfamic acid would provide no ammonium. It is argued that Woodhouse teaches away from the claimed invention as it would essentially teach one skilled in the

art to not use a cation other than ammonium. Applicant argues that (2) Woodhouse involves the addition of nitrifying agent which increases the formation of ammonium containing phosphate. It is argued that Woodhouse teaches away from the instantly claimed invention as Woodhouse teaches adding nitrifying agent which increase reaction that require ammonium containing sulfamate rather than metallic containing sulfamate. Applicant argues that (3) Woodhouse clearly contemplates basic composition in order to maintain the nitrifying agent in the composition. Applicant argues that (4) in fertilizer mixtures containing salts of sulfates and phosphate and metal salts of sulfamic acid, the bivalent anions form substantially stronger bonds to metallic bivalent cations from the salt of sulfamic acid than the monovalent anion. In fertilizer mixtures containing salts of sulfates and sulfamic acid, said bivalent anions form substantially strong bonds to metallic bivalent cations from the salts of sulfate and phosphate than the monovalent sulfamate anion.

Applicant's arguments filed August 17 2009 have been fully considered but they are not persuasive.

Regarding applicant's first argument, the examiner disagrees that Woodhouse teaches away from the claimed invention. The rejection is made under 103 and does not need to exemplify all embodiments, only suggest. "Disclosed examples and preferred embodiments do not constitute a teaching away from the broader disclosure or non-preferred embodiment." *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). Woodhouse teaches that although the examples are restricted to the use of ammonium sulfamate, the use of this salt is only illustrative as indicated elsewhere sulfamic acid or

other salts of sulfamic acid may be substituted for and utilized equally as well as the ammonium sulfamate of the examples. Therefore, Woodhouse suggests utilizing other salts such as bivalent metallic salts such as magnesium and calcium. Woodhouse teaches three different types of fertilizer compositions. The first is sulfamic acid or salt thereof with ammonia. The second is sulfamic acid or salt thereof with an ammoniating liquor. The third is sulfamic acid or salt thereof with a nitrogen containing contaminating liquid such as nitrates. The third embodiment is same as the instant invention as this fertilizer composition would comprise sulfamic acid salts and nitrates. It is then taught that this composition can be added to acidic fertilizers such as superphosphates (aka phosphoric acid). Therefore, Woodhouse suggests the same claimed composition. Woodhouse teaches that sulfamic acid is a good source of nitrogen which is needed for plant growth. Woodhouse teaches that the sulfamic acid is a fixed ammonia containing material. Since sulfamic acid, structurally, possess a  $\text{NH}_2$  group whether you have the ammonium salt of sulfamic or the calcium salt of sulfamic acid, sulfamate or sulfamic acid would provide nitrogen (ammonia) to the plant via the  $\text{NH}_2$  group of sulfamic acid. This composition would be expected to provide nitrogen to the plant for growth. This type of composition appears to be the same as the instantly claimed composition which is as instantly claimed with a plant nutrient composition. Ammonium containing compounds do not appear to be excluded from the instantly claimed composition as one specific nitrate claimed is ammonium nitrate.

Regarding applicant's second argument, the examiner once again disagrees. While one embodiment of Woodhouse does suggest improved ammoniating solutions.

Other embodiments do not require ammonia only nitrogen containing solutions. The sulfamic acid is taught as improving nitrogen containing fertilizers. The ammoniating solutions of Woodhouse are designed to provide nitrogen to plant sources. Nitrogen is essential for plant growth. The instant claims are directed to a product. This product comprises two components. The first component is a reaction product of sulfamic acid and a macronutrient. This reaction product is a bivalent metallic sulfamic acid salt such as iron sulfamate. The second component is a phosphate, nitrate or both or phosphoric acid or nitric acid. Woodhouse's composition comprises both of these things as they comprise a sulfamic acid salt and a nitrate. Therefore, in terms of the way the examiner interprets the claims, the product of Woodhouse and the instantly claimed product are the same especially since Woodhouse teaches that the composition is a fertilizer which is a plant nutrient composition.

Regarding applicant's third argument, the examiner would agree that the addition of large amount of ammonia would probably lead to a basic composition. However, as claimed one form of the fertilizer composition is such that the salt of the sulfamic as well as the water soluble salts having fertilizing value are added to an acidic base. Since the sulfamic acid salt would be expected to be acidic and the nitrates would be expected to at least be neutral (see the submitted MSDS sheets for ammonium sulfamate and sodium nitrate) the overall pH of the composition would be expected to be acidic. The declaration indicates that Woodhouse describes basic compositions. However, it does not appear that the compositions of Woodhouse were ever tested nor was any specific passage pointed to in which Woodhouse explicitly states the composition is basic.



Regarding applicant's fourth argument, the examiner is not entirely clear what the argument actually pertains to. It is unclear if applicant is arguing the advantage of utilizing bivalent salts over monovalent salts. If that is the case Woodhouse teaches utilizing bivalent metals (i.e. calcium and magnesium). It is unclear if applicant is arguing the formation of iron sulfamate as argued by the examiner. If this is the case, the examiner points out to applicant that claim 80 is directed to a product by process.

**Note MPEP 2113 [R-1]** “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The MPEP also indicates that “the structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979). Since Kirk-Othmer discloses that either the metal (i.e. iron) or the corresponding carbonate (i.e. Iron Carbonate), oxide (Iron Oxide) or hydroxide (Iron Hydroxide) can be reacted with sulfamic acid to form the corresponding salt. Any of these species metal, carbonate, oxide or hydroxide would form the instantly claimed reaction product and would therefore read on

component a. It is unclear why applicant argues that no chemical reaction occurs with respect to the formation of metallic sulfamate throughout its mixture of acid fertilizers and sulfamic acid and salts of sulfamic acid as this is not required by the instant claims. The instant claims require two species the bivalent metallic salt of sulfamic acid and a phosphate, nitrate, phosphoric acid or nitric acid.

The declaration under 37 CFR 1.132 filed August 17 2009 is insufficient to overcome the rejection of claims 80-81, 86-87, 89-91, 94-96 and 98-103 based upon Woodhouse as set forth in the last Office action because: while the declaration has established that the embodiments of the instant invention are acidic the declaration has not provided evidence that the composition of Woodhouse are basic. The declaration states that the compositions of Woodhouse are basic however it does not appear that the declarant actually tested the Woodhouse compositions. As indicated above, as claimed by Woodhouse, one form of the fertilizer composition is such that the salt of the sulfamic as well as the water soluble salts having fertilizing value are added to an acidic base. Since the sulfamic acid salt would be expected to be acidic and the nitrates would be expected to at least be neutral (see the submitted MSDS sheets for ammonium sulfamate and sodium nitrate) the overall pH of the composition would be expected to be acidic.

Therefore, the rejection is maintained since applicant has not provided any persuasive arguments to overcome the rejection.

### ***Conclusion***

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABIGAIL FISHER whose telephone number is (571)270-3502. The examiner can normally be reached on M-Th 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Abigail Fisher  
Examiner  
Art Unit 1616

AF

*/Mina Haghighatian/*  
Primary Examiner, Art Unit 1616